

(12) UK Patent Application (19) GB (11) 2 398 156 (13) A

(43) Date of A Publication 11.08.2004

(21) Application No: 0302720.8

(22) Date of Filing: 06.02.2003

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(51) INT CL⁷:
G08B 21/00 , B08B 9/02 , B67D 1/07

(52) UK CL (Edition W):
G4N NHSX N6N7

(56) Documents Cited:
GB 2362741 A DE 004403222 A1
DE 004329784 A1 DE 003538449 A1

(58) Field of Search:
UK CL (Edition V) G4N
INT CL⁷ B08B, B67D, G08B
Other: ONLINE: EPODOC, WPI, JAPIO

(54) Abstract Title: **Beer-line cleaning monitor and alarm**

(57) A monitor which may be inserted in an existing beer or beverage line 13 by cutting into that line and connecting each end of the monitors fluid tube to that line. The monitor uses sensors 12 to detect the changing nature of the fluid present in the line when cleaning fluid or rinsing water is substituted for beer or beverage during a cleaning operation. A control unit 10 embodies a clock and calendar 17 which enable it to measure the elapsed time since a clean took place, log the times and/or dates of cleaning and to activate alarms 14, 15 if the elapsed time since the last cleaning operation exceeds a preset period.

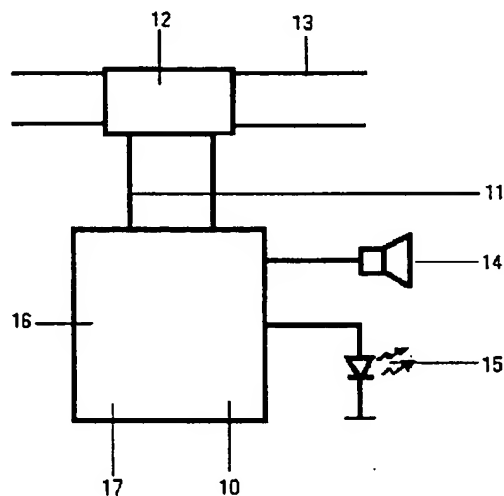


Fig 1

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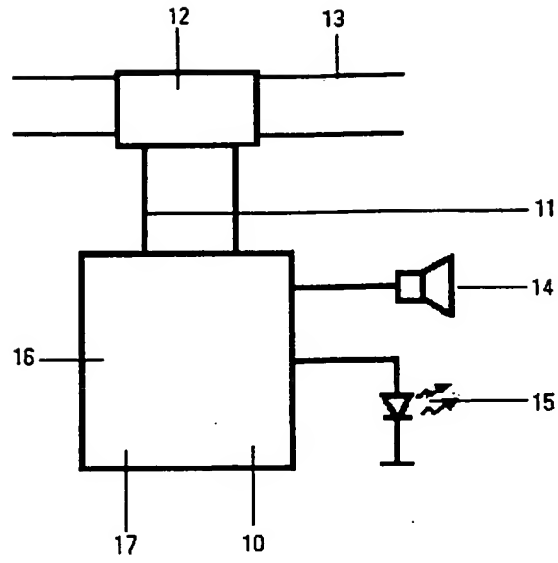


Fig 1

BEER LINE CLEANING MONITOR

The invention relates to a Beer Line Cleaning Monitor.

Fluid lines which carry beer or other potable beverages from a storage area or cellar to the point of dispense are well known to require periodic cleaning in order to avoid a build up of contaminants which may adversely affect the quality of the beer or beverage. This cleaning is normally performed by passing chemical solutions through the fluid line, followed by rinsing water. The frequency with which the cleaning operation should be performed is specified by the beer or beverage manufacturer, or by the person responsible for the conduct of the premises. Carrying out the cleaning operation on the due date is the responsibility of any nominated individual member of staff of the premises, or is sub-contracted to a specialist cleaning company.

Periodic cleaning operations are, however, commonly deferred or omitted due to time constraints or the wish to avoid wastage resulting from emptying the fluid lines. The person with overall responsibility for the premises is frequently unaware of deferred or omitted cleaning until this becomes apparent in the quality of product as presented to the consumer.

According to the present invention there is provided a monitor which may be inserted into an existing beer or beverage line by cutting into that line and connecting each end of the monitors fluid tube to the cut line, and which detects the changing nature of the fluid present in the line when cleaning fluid or rinsing water is substituted for beer or beverage during the cleaning operation. This monitor measures elapsed time since the last cleaning event and activates an alarm if this elapsed time exceeds a value set by the person with overall responsibility ".

A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawing in which:-

Figure 1 shows the monitor in position in the beverage line.

Referring to the drawing the monitor comprises of a control unit 10 and sensors 12 in the form of a package reasonably secured in the beverage line 13 by, for example, a mechanical attachment each end of the monitors fluid tube(not shown).

The control unit 10 is connected to the sensors 12 by wires 11. A power source in the way of battery 16 is in the control unit 10.

Audio signal 14 is accompanied by visual signal 15.

The clock and calendar is contained within or connected to control unit 10.

Control unit 10 is programmed to interrogate clock/calendar 17 in conjunction with sensors 12 in order to measure elapsed time since the sensors 12 detected a change in the nature of the fluid within beverage line 13.

If the elapsed time since the change of fluid within the beverage line 13 and detected by sensors 12 exceeds a preset value programmed into control unit 10 then the control unit 10 activates either an audible alarm 14 or visual alarm 15

CLAIMS

1. A monitor which may be inserted into an existing beer or beverage line by cutting into that line and connecting each end of the monitors fluid tube to the cut line, and which detects the changing nature of the fluid present in the line when cleaning fluid or rinsing water is substituted for beer or beverage during the cleaning operation. This monitor measures elapsed time since the last cleaning event and activates an alarm if this elapsed time exceeds a value set by the person with overall responsibility ".
2. A monitor as claimed in Claim 1 wherein the unit visually or audibly will communicate the amount of time elapsed since a cleaning operation took place.
3. A monitor as claimed in Claim 1 or Claim 2, wherein actual times and dates of prior cleaning events are logged and may be recalled and displayed ".
4. A monitor as claimed in Claim 1 or Claim 2 or Claim 3, wherein means is provided for a remote control unit displaying the information from each monitor in the beer or beverage lines.
5. A monitor as claimed in Claim 1 or Claim 2 or Claim 3, wherein data from the beverage line sensors is transmitted to the control unit.
6. A monitor substantially as described herein with reference to Figure 1-4 of the accompanying drawing.



Application No: GB 0302720.8

Examiner: Dr Stephen Richardson

Claims searched: 1 at least

Date of search: 5 August 2003

Patents Act 1977 : Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1 at least	DE 3538449 A1 (BÜRO) see Figures 1 & 2 and EPODOC & WPI abstracts.
X	1 at least	GB 2362741 A (PLEASANTS) see whole document.
A		DE 4403222 A1 (BERSCH)
A		DE 4329784 A1 (ROHRMOSER)

Categories:

X Document indicating lack of novelty or inventive step	A Document indicating technological background and/or state of the art.
Y Document indicating lack of inventive step if combined with one or more other documents of same category.	P Document published on or after the declared priority date but before the filing date of this invention.
& Member of the same patent family	E Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^v:

G4N

Worldwide search of patent documents classified in the following areas of the IPC⁷:

B08B, B47D, G08B

The following online and other databases have been used in the preparation of this search report:

ONLINE: EPODOC, WPI, JAPIO